

# Premier's Shear and Clipper Key Questions...

## Why only a 4000 version?

1. The lower cost of the 3000 was not enough savings to justify the reduced power and speed.
2. After working on a few animals, those who learned on the 3000 soon wished for more speed and power.

## Should I replace my 3000?

Not if you are happy with it. It's a good machine that should last a long time. We will continue to service and repair it.

## Can I handle a 4000?

Most folks can. More frequent lubrication is needed (because the blades are moving faster).

The extra speed and torque require a little more focus for the first hour or so until you become accustomed to the feel, balance and speed of the unit. Once comfortable, most users soon appreciate the power.

## Is higher speed (strokes per minute under load) good?

Higher speed produces a smoother, more even, and more attractive finish.

But higher speed also produces more friction; more rapid wear of blades/combs/cutters; higher blade/comb temperature; more noise and more vibration.

## Does high speed = high power?

Not necessarily. Power is torque, not rpm(s). Machines with higher torque can maintain their cutter or blade speed when pushed rapidly through dense, thick fiber. Motors with less torque than the 4000, for example, slow down when pushed too fast.

## Does high watts = more power?

Watts, in clipping or shearing machines, measure energy converted into power or heat.

Permanent magnet motors such as those in Premier's 4000 are very energy efficient. Push them rapidly through dense fiber and energy consumption jumps to 200 watts. As you pull them back for another stroke, energy consumption often drops to as low as 50 watts.

By contrast, universal motors (used in many other machines) continue to draw very high watts when "idling." That partially explains why they run so "hot," exhaust more air and create greater blade wear.



## Why correct cutter tension on shear heads is so critical—

*Too little tension* allows cutters to fly off when the machine is first turned on. When this occurs, the fork "fingers" that were driving the cutter drop down between the comb's teeth. The forks then "lock" in place—which in turn shears the drive gear at the back of the shear head.

*Too much tension* results in excessive friction between comb and cutter. Result? Rapid wear and excess heat.

*To get it "right,"* turn the black tension knob down (forcing the cutter against the comb) until resistance is felt. Then add 1 more full turn before turning on the machine. Adjust cautiously as needed while it's operating.

## Clipper blade tension?

Too little tension on clipper blades won't damage anything—but they won't cut fiber.

However, too much tension on clipper blades causes higher friction, higher blade temperatures and less blade "edge" life.

## How valuable is oiling & why?

Proper lubrication reduces both heat and premature wear. So how often? Don't wait until the "sound" changes because, unlike universal motors, permanent magnet motors do not sound different when the blades are dry. **Apply oil to the tips of the teeth every 3 minutes.**

## Why are ventilated heads superior?

In our tests, **heads and blades that were ventilated by air driven forward through the heads ran 20°F cooler** than identical heads that ventilated out the side of the motor—without any change occurring in the motor temperature.